

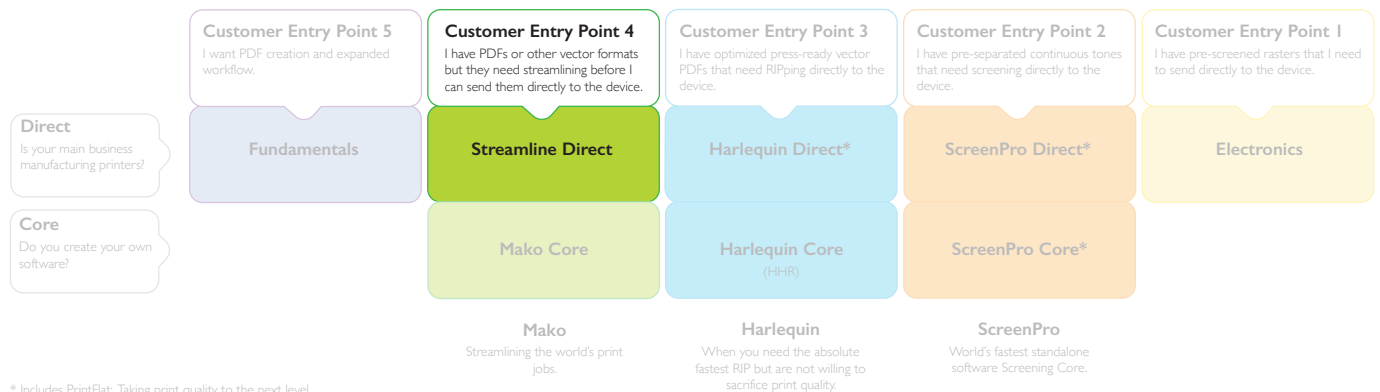


# STREAMLINE DIRECT™



Will your print jobs arrive from many PDF sources and creators? Do you need to support non-PDF formats? Not all PDFs are created the same. Streamline Direct will check each PDF, allowing you to reject any that are likely to slow your device down.

Streamline Direct can also be used to streamline any problem PDF to achieve the same output quality whilst maximizing your device speed. If your market requires non-PDF formats, Streamline Direct can be used to convert many formats to print-ready PDFs.



## Enables Harlequin Direct to work with many PDF creators

Unless you are using a high quality PDF creator like HYBRID STEPZ, you may see a vast variability in the speed and quality of PDF jobs.

Two PDFs can look identical when printed and viewed, but they can vary a huge amount in structure and content.

To ensure that Harlequin Direct can keep up with the printer, you either need to control the creation of the PDFs (e.g. only use HYBRID STEPZ) or you need a component that can look at each PDF job and predict the speed you will get before it's committed to a print run.

## Cross platform

Streamline Direct can be deployed as an application, mobile server or web service. For instance, it can be built into Windows applications like the Press Operator Controller, analyzing each job in the "Waiting" queue.

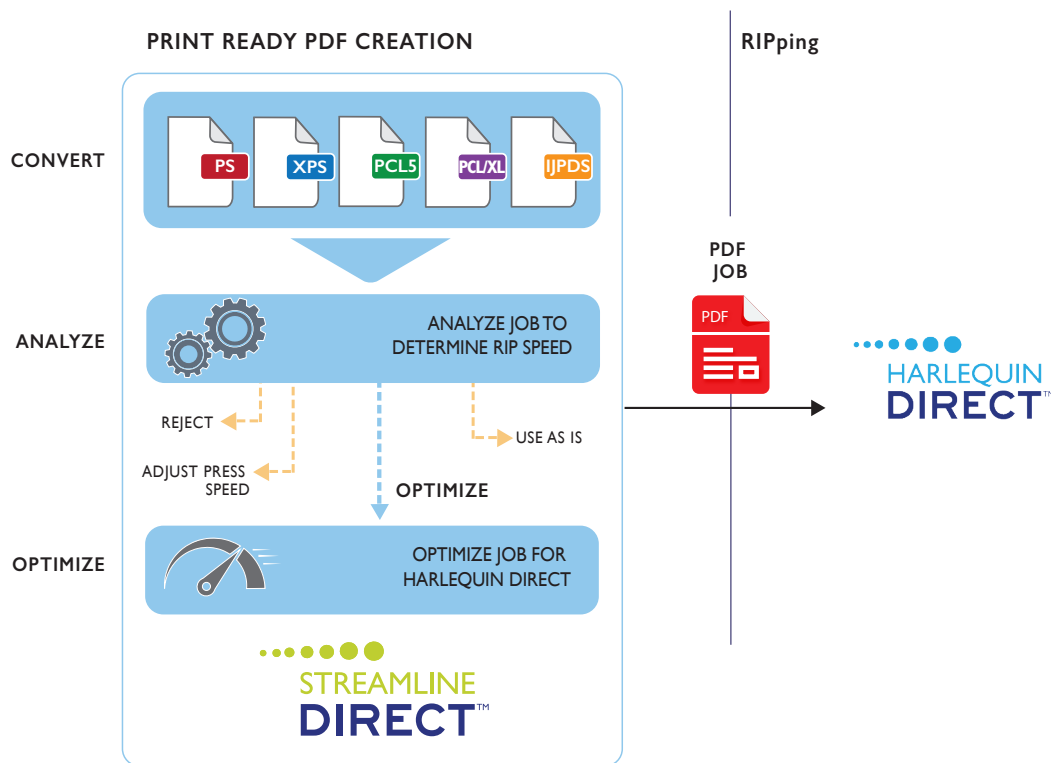
It can be built into a web service with a pay-as-you-streamline revenue model. Streamline Direct has advanced parallel processing and is scalable on web servers (e.g. running on Linux in Docker containers).

## Accurately predicts the achievable line speed for every PDF job

Streamline Direct is an optional component that can analyze a PDF job's structure and content, using the result to predict the linear print speed achievable via Harlequin Direct.

If Streamline Direct predicts that the job will not run at the maximum rated speed of the printer the user can either:

- 1) Reject the job, requesting it to be constructed in a more efficient manner.
- 2) Use the predicted linear speed from Streamline Direct to reduce the printer speed.
- 3) Streamline the PDF file, creating a more efficient structure and optimized content to increase the achievable line speed without affecting quality.



## Streamlines the PDF specifically for Harlequin Direct

Streamline Direct examines the structures of the PDF, employing specific strategies for different object types. These strategies will reduce the file complexity and enhance Harlequin Direct efficiency. Streamline Direct is the only job pre-processor that knows Harlequin Direct inside and out. Using insider knowledge enables Streamline Direct to target specific improvements that improve throughput for Harlequin Direct. Streamlining a file will:

- Eliminate duplicate fonts and merge font subsets.
- Merge (and intelligently down-sample) duplicate images.
- Eliminate duplicate resources and XObjects.

- Remove print-redundant data such as user metadata, annotations, bookmarks, links, comments and thumbnails.
- Compress content streams and data structures, and (optionally) flatten layers.
- Discard empty XObjects and repair incorrect references.
- Tag PDF objects with Harlequin Direct-defined hints, enabling the RIP to skip time-consuming in-RIP content analysis.

## Basic pre-flight

Streamline Direct includes basic pre-flight checking for anything that could cause wrong or unpredictable output quality (e.g. non-embedded fonts).

## Imports from multiple page description languages

There are many page description languages used in print workflows (e.g. IJPDS and PPML). Streamline Direct can import non-PDF formats and convert them to streamlined PDF for use with Harlequin Direct.

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